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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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ORGANIZATION OF GERMAN GROUP AT LOMONOSOV

1. The German group at Lomonosov, formerly Oranienbaum, was under the administration of the Special Technical Bureau (Osoboye Tekhnicheskoye Byuro) (OTB) which was under the direction of the Soviet Naval Ministry. The Soviet head of the group was a Capt. 1st degree, SERBIN. It was reported that he had been in the United States during World War II. Lt. STEFANOV was the Soviet officer directly in charge of the German specialists. There were about ten additional Soviets connected with the group. We Germans were divided into three sections. One, a torpedo propulsion section, was under the direction of Ing. Kurt LAWITSCHKA, with a Soviet by the name of LITVINOV as the administrative head. Another, a torpedo mechanism section, was under the direction of Ing. Georg GLOEDE, with a Soviet major GUSEV as the administrative head, and a Soviet BRIKIN as a deputy to GUSEV. The last section was the underwater mine mechanism section, under the direction of Ing. Roman KOLL. GUSEV and BRIKIN also served as the Soviet administrative heads of this last section.

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RESEARCH PROJECTS OF OTBWork of KOLL Section

2. When the German group was at Sestroretsk we were directed to begin the reproduction of our World War II underwater ordnance designs. At Menshikov castle, the KOLL section continued the reconstruction of the circuit diagrams of a German World War II combination magnetic, acoustic, and induction mine. The Soviets had brought a sample of this German mine to Lomonosov and this was available for their use in this reconstruction.

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About October 1947 the Soviets showed the KOLL section a sample of one of their own mine mechanisms. I know nothing about the type designation of this USSR mine. It certainly had an inductive unit. This Soviet mine utilized a search coil of from 50,000 to 100,000 turns plus an ordinary soft iron core plus a DC relay of about 10 uA sensitivity. The German counterpart used a search coil of some 3,000 to 5,000 turns and had a core of high magnetic permeability, with a DC relay of about 100 uA sensitivity. The Soviets for some unknown reason, possibly nationalistic pride, maintained that their mine was more sensitive than the German mine. They maintained that it was not necessary to use a search coil core of high permeability. They were extremely naive about the matter as evidenced by their contention that their mine did not have such a core and worked as satisfactory as the German one. The Soviets insisted that the KOLL section design a new mine combining the good features of both the German and Soviet mine and utilizing the Soviet type search coil. The KOLL section refused to have anything to do with this scheme. In the Soviet group there was a certain faction which agreed with the German viewpoint, but they apparently were in the minority. This improved mine was never designed and I have no details of the other features of the Soviet mine.

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4. [redacted] the remainder of the KOLL group was doing research on a high permeability research coil. They maintained that they simply could not design a suitable main mechanism without incorporating a high permeability search coil and that there was no point in trying to do it the Soviet way. Apparently their collective expression of opinion bore weight with the Soviets because they were never "ordered" to make the design. It was now about May or June of 1948. The Ministry of the Navy retired from the administration of the Oranienbaum group and the Germans were incorporated into the MSP (Ministry for Ship Production). The headquarters of this organization was in Moscow. The German group officially became part of the NII-400 Institute. Their activities under this new management will be described in a subsequent report. Apparently, the Navy Department was very dissatisfied with, what they called, "lack of co-operation" on the part of the Germans. This was given as the official reason for abandonment of the project. Neither the KOLL section nor LUEBCKE individually ever did any work on the acoustic coating of mine cases, nor did I ever hear of any work even vaguely hinting at such a development.

#### Research Conducted by Other Sections

5. I knew that the GLOEDE section worked on a project dealing with the reconstruction of the German World War II AMSEL and GEIER, which were pattern running torpedoes with the code names of STORCH and SCHWENK-STORCH. I knew absolutely nothing about any other project of this section. The same statement applies to the LAWITSCHKA section. I knew in general that they were working on the torpedo propulsion problem. I never saw anything like the usually identified  $H_2O_2$  containers at Menshikov castle, but it was common knowledge that this section was working with Ingolin as a propulsion fuel. The presence of explosion bunkers on the grounds

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would indicate the existence of some sort of a delicate project. SCHOLZ worked on the design of fuel pumps for torpedoes, while GUTSCHE worked on propeller design calculations for torpedoes and ships. I know of no parallel developments by the Soviets, or of any other research or development establishment near Leningrad, or any other military or industrial development of the Soviets. Dipl. Ing. Hubert ABERMETH, a member of the LAWITSCHKA section, is in my opinion a more capable engineer than LAWITSCHKA. ABERMETH designed a complete torpedo, except the fusing mechanism, which was ready for production. It utilized a jet propulsion motor operated by Ingolin. I have no details on this torpedo.

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6. Soon after the group began working at Menshikov castle, the GLOEDE section insisted on the construction of an acoustic testing tank. It was built in 1947 by the OTB, according to their plans and by their engineers. None of the Germans were consulted in the planning or construction of this tank. Prof. LUEBCKE might have been consulted, but I think it improbable due to reasons which will be given below. The KOLL section never made use of the tank, since their work dealt only with relatively low

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The tank was built of concrete and was approximately 10 meters long, five meters wide, and three to four meters deep. The inside wall surfaces were covered with large numbers of wooden cones, which were manufactured by the East German firm of RFT (formerly the old GEMA firm, located in Berlin/Koepenick). These cones were designed by a German engineer WEIGEL. Dipl. Ing. Gerhard GRAEFE and I

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knew WEIGEL and both of us considered him a charlatan. Portable platforms were located at both ends of the tank for fastening the test equipment. The depth and distance apart of this equipment could be varied. There was no permanent instrumentation installed in the tank room, and all auxiliary equipment had to be assembled and set up in the room for each test. GLOEDE and GRAEFE sometimes used the tank for calibration of crystal transmitters and receivers at 10,000 cps., but actually made very little use of the installation. I consider the tank too small for serious underwater acoustic work, and useless for measurements less than about 1,000 cps. The Soviets installed a mechanical low frequency underwater sonic generator in the tank. It had been built in Germany and had an output of about 500 watts and utilized a piston actuated diaphragm with a diameter of about 30 cm. The frequency could be varied from 5 to 300 cps., and the diaphragm amplitude from 1 to 10 mm. It used an AC power supply controlled by a so-called LEONHARD transformer aggregate. When this monstrosity was operated in the tank, a very beautiful and gigantic standing wave pattern would be set up, which practically removed the water from the tank and, of course, made any acoustic measurements impossible. The Soviets were immensely proud of this tank and installation, and treated it as their special project. They were continually running endless experiments in this tank and were firmly convinced of the accuracy of their results.

7. While under the administration of the Soviet Navy, many technical conferences were held between the Soviet section heads and the main members of the respective German sections. Whenever a new project was started, a general conference was held with all the members of the section. The German section heads, KOLL, LAWITSCHKA, and GLOEDE, had a great deal to say concerning the

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division of labor in their respective sections. The Soviets were never openly satisfied upon the completion of any project, but they were generally highly gratified over the results.

8. The Germans were plagued with material difficulties, and this phase will be fully described in a subsequent report. Most of the German technicians refused to improve on a Soviet design or technique, or even to show the Soviets their own techniques. Others such as KOLL and LAWITSCHKA, being overly conscientious, were eager to instruct the Soviets in any improved technique. There were no really knowledgeable Soviets at the Menshikov castle. The only Soviet I met, who seemed really intelligent, was a Prof. BRONN, who had formerly been at Karlshorst, and was a physicist. BRONN [redacted] was reported to have studied in Munich. BRONN occasionally visited Menshikov castle. All the Germans who knew BRONN held the same opinion. I heard later that Prof. BRONN had been elevated to the head of his own institute, called the NAI, but I have no idea where this institute is located, what was done there, or the significance of the code name NAI. 50X1-HUM

#### Working Conditions

9. The entire German group was housed in the Menshikov castle. The exact location of the laboratories and workshops of the three sections was constantly being changed. The working hours were from 0900 to 1330, and from 1430 to 1800. We worked a six day week of 48 hours. At the beginning we had a rather liberal sick leave system. During the first year of service we received on a prorated basis 50 per cent of our monthly salary. During the next eight years, this figure was 80 per cent, and after that period, 100 per cent. We had one month's vacation a year, and this didn't have to be taken all at once. We were paid in currency on the 20th of the month and on the 10th of the following month. All the Lomonosov German group could send up to 1/2 of their salary to the East Zone or to East Berlin each month. Approximately 12 to 13 per cent of our salary was deducted for taxes.
10. We Germans, while under the Naval Ministry, had relatively great freedom of movement about the Leningrad area. I took long bicycle rides unescorted around Lomonosov (formerly Oranienbaum).
11. There were a few Russian technical books and periodicals at Menshikov Castle to which the German group had access. If anyone needed to consult a foreign text or periodical, they were allowed to go to the Leningrad library with an escort. The Germans had to apply to the chief of their respective sections for this permission and it was never refused. There were no restrictions on the frequency of their visits to this library. Their escort left them at the library door and they were free to wander around at will. They frequently met German personnel from other groups in the Leningrad vicinity and there was no prohibition against these library meetings and resultant conversations. Requests to go to the library were considered a lack of education and knowledge and we had to pay for our own transportation to and from the library. The library facilities were very complete; U S periodicals appeared only one month after their publication date.

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SECURITY REGULATIONS

12. There was a rather strict security of the workshop and laboratory spaces. At each door there was a sentry (all women except three old men) armed with either a rifle or an automatic pistol. If one of the German group wanted to go to the head, for instance, he had to obtain permission from the door sentry. The Germans were not permitted to enter any rooms other than the ones to which they were assigned. While under the administration of the Ministry of the Navy, the Germans had complete freedom of movement in the Leningrad area. They simply had to apply for the proper pass, which was never refused.

JET FIGHTER AIRFIELD

13. At a town named Pushkino, some 40 km. southeast of Oranienbaum, I observed a jet fighter field. There were on the average five jet fighters continually in the air over Oranienbaum. I was never close enough to estimate features of the field, such as lengths of runways, etc. Some eight to ten kilometers south of Oranienbaum, there was a very large tank training unit. They had a 1,000 to 5,000 meter firing range, and used cardboard targets. There were Hungarian and Czechoslovakian officers attached to this unit. There was a naval training academy some five kilometers southwest of Oranienbaum. I deduced this from the uniforms I saw.

VACUUM TUBE RESEARCH CONDUCTED BY LENINGRAD INSTITUTE

14. I met Dr. Ing. Eduard KROCHMANN in Leningrad. He held several positions with the Soviets. His first position was to redesign captured German World War II instruments so as to utilize Soviet vacuum tubes. This work was performed at some institute in Leningrad, but I do not know its name or location. KROCHMANN was a great friend of GLOEDE's and mine. I know nothing of the other projects of Dr. KROCHMANN.

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(Amplitude of meas. cond.)  $A = 2.2V$  (50% voltage of Valve-voltmeter)

$$\bar{r} = d\sqrt{L} = 10^{-7} \frac{m}{V} = 0.1 \frac{m}{V}$$

$$C = \frac{F^2}{3.6d} = 100pF$$

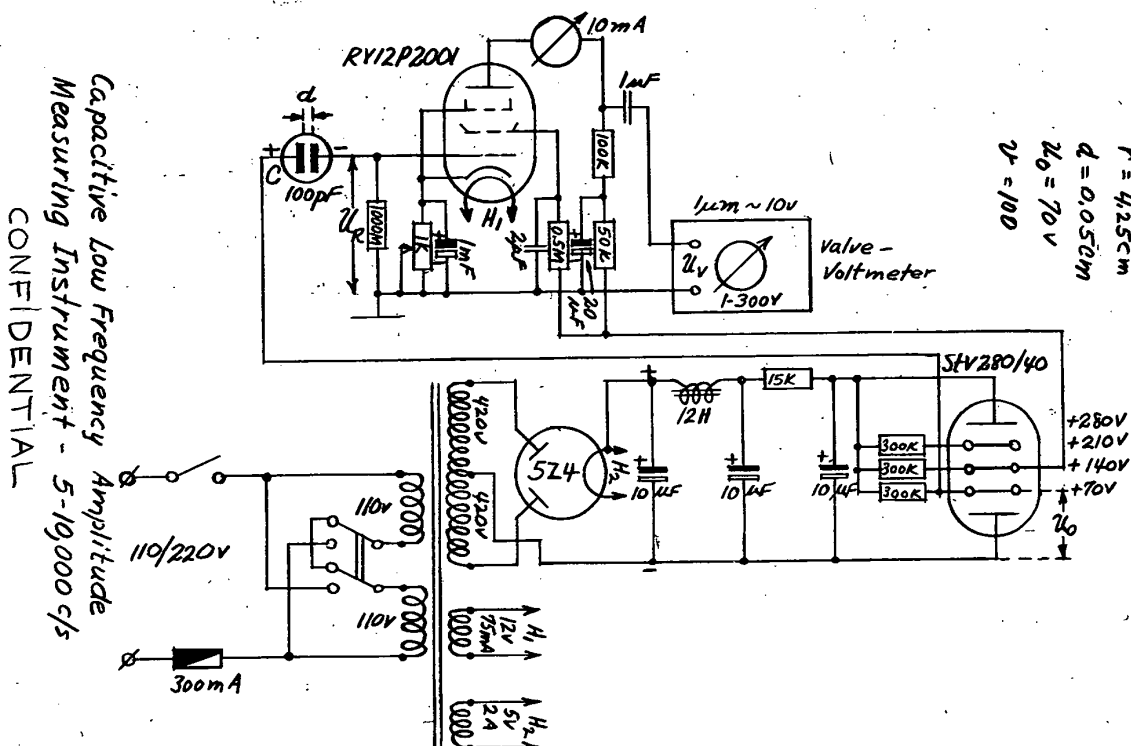
$$r = 4.25cm$$

$$d = 0.05cm$$

$$V_0 = 70V$$

$$V = 100$$

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